Revision 4

Store at -20C

#14194

ADAM10 Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	68, 90	Rabbit	#O14672	102

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

ADAM10 Antibody recognizes endogenous levels of total ADAM10 protein, including the active, mature 68 kDa protein and the 90 kDa precursor chain. The antibody also recognizes a 35 kDa protein of unknown origin.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human ADAM10 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Members of the ADAM (a disintegrin and a metalloprotease) family of multidomain membrane proteins influence cell signaling and adhesion by shedding cell surface proteins, such as cytokines and growth factors. This process influences cell-extracellular matrix (ECM) adhesion and ECM remodeling. Conserved domains found in most ADAM family proteins include a prodomain, a zinc-dependent metalloprotease domain, a disintegrin domain, a carboxy-terminal cysteine-rich domain, an EGF-like sequence, and a short cytoplasmic tail (1,2).
The ADAM metallopeptidase domain 10 (ADAM10) is a plasma membrane proteinase that cleaves membrane-bound proteins targeted for regulated intramembrane proteolysis (RIP). The ADAM10 prodomain acts as a chaperone that stabilizes mature ADAM protein folding, and prevents target-protein shedding through inhibition of ADAM10 proteinase activity (3,4). Mature ADAM10 is the major α-secretase responsible for cleavage of Notch, APP, cadherins, and prion protein (5-7). The ADAM10 protein cleaves receptor tyrosine kinases and their associated ligands and displays a wide range of regulatory functions across related signaling pathways (8). Research studies using knockout mice demonstrate that loss of ADAM10 results in defects in cortex formation, lymphocyte development, and cardiovascular development (9-11). Increased ADAM10 protein expression correlates with progression of many types of cancer (i.e. gastric cancer, hepatocellular carcinoma, and brain glioma), due to increased cancer cell migration, metastasis, and invasion (12-14). Mutations in the corresponding *ADAM10* gene result in a rare, autosomal dominant pigmentation disorder known as reticulate acropigmentation of Kitamura (15).

Background References

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13. Yuan, S. et al. (2013) *Oncol Rep* 30, 1715-22.
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Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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